

REMARKS/ARGUMENTS

Claims 1-2, 4-8, 12-13, and 17-21 are active.

Support for the above amendment in Claims 1, 12 and 17 defining the catalysts without using hydrogen chloride is found on page 8, line 6 to 18 and Preparation Example 1 of the specification.

Support for the amendment to Claim 1 (B) is found on page 10, lines 13 to 19, of the present specification.

Support for Claim 8 is found in Claims 9 to 11, which are incorporated therein and page 10, lines 13 to 25 for the concentration of adamantanes.

Claims 14 to 16 are incorporated into Claim 12 and Claim 22 is incorporated into Claim 17.

No new matter is added.

The rejections of Claims 8-11 under 35 USC 102(b) and Claims 1-7 and 12-22 under 35 USC 103(a) citing to Honna is not applicable to the claims as presented here because Honna does not describe a reaction step with a catalyst in the absence of hydrogen chloride, nor concentrating the reaction product liquid because Honna's reaction requires hydrogen chloride and n-hexane is added to the reaction before concentration. These and other points of distinction are set forth in further detail below.

Honna describe preparing adamantane compounds by the isomerization of a tricyclic saturated hydrocarbon having 10 to 14 carbon atoms using X or Y-type zeolite catalyst subjected to ion exchange with at least one metal ion selected from the group consisting of ion of rare earth metals, ion of calcium ions of magnesium or X- or Y-type zeolite catalyst subjected to ion exchange with at least one metal ion selected from the group consisting of

ions of rare earth metals, ions of calcium ions of magnesium and further loaded with 1 to 4 metals of germanium, platinum, rhenium, nickel, cobalt, copper, iron, ruthenium and rhodium (see, Claim 1 and 2). Honna describe that the presence of HCl gas and/or H₂ gas improve the reaction yield and life of the catalyst, and particular that the presence of both gases gives a synergistic effect (see, column 3, lines 4 to 7 of Honna).

Further, Honna et al. describe that after the reaction was completed, the reaction product liquid was dissolved in n-hexane and the catalyst was removed by filtration (see col. 4, lines 3-9). The resultant colorless and transparent solution was concentrated by distillation and adamantane with more than 99% of purity was precipitated by standing the concentrate for several hours at ordinary temperature (see Example 1, col 4, lines 1-12 of Honna).

In the process as defined in claims 1 and 8, the reaction product liquid is concentrated, which means that without addition of solvent, such as (n-hexane as in Honna)-see also page 10, lines 13-19 of the present specification. Adamantane of 98 % purity is obtained from the concentrated liquid after purification (see, Example 1 to 4, of the present specification).

As Honna describes that before concentration, n-hexane is added thereby making the reaction liquid no longer the reaction liquid.

Further, Honna neither disclose nor suggest the combination of the steps (A), (B), (C), (D), (E) and (F) as provided in Claim 1.

Further, Honna neither disclose nor suggest the combination of the zeolite catalyst in the absence of hydrogen chloride, concentrating the adamantanes in a reaction product liquid, two crystallizations and the crystallization temperature as defined in Claim 8.

Further, Honna neither disclose nor suggest the combination of the zeolite catalyst in the absence of hydrogen chloride, the washing solvent and amount of washing solvent as defined in Claim 12.

Further, Honna neither disclose nor suggest the combination of the zeolite catalyst in the absence of hydrogen chloride and the type of drying defined in Claim 17.

The specification describes that by conducting the process as described and claimed herein, high-purity adainantanes are produced efficiently without using hydrochloric acid an in isomerization reaction and also without the need for troublesome operations such as waste liquid treatment while suppressing product loss as low as possible in an industrially advantageous process. According to the process of the present invention, high-purity adamantanes are efficiently produced in an industrially advantageous process, wherein the adamantanes obtained by using a solid catalyst are purified economically by crystallization treatment and without imposing environmental load. (see, INDUSTRIAL APPLICABILITY in the specification).

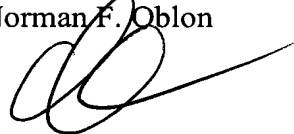
Therefore, Honna does not describe all of the limitations of the claims nor the advantages that are obtained when following the invention defined therein.

Reconsideration and withdrawal of the rejections is requested.

A Notice of Allowance is also requested.

Respectfully submitted,

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